

# **Prevention of Perinatal Group B Streptococcal Disease**

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**National Center for Immunizations and Respiratory Diseases  
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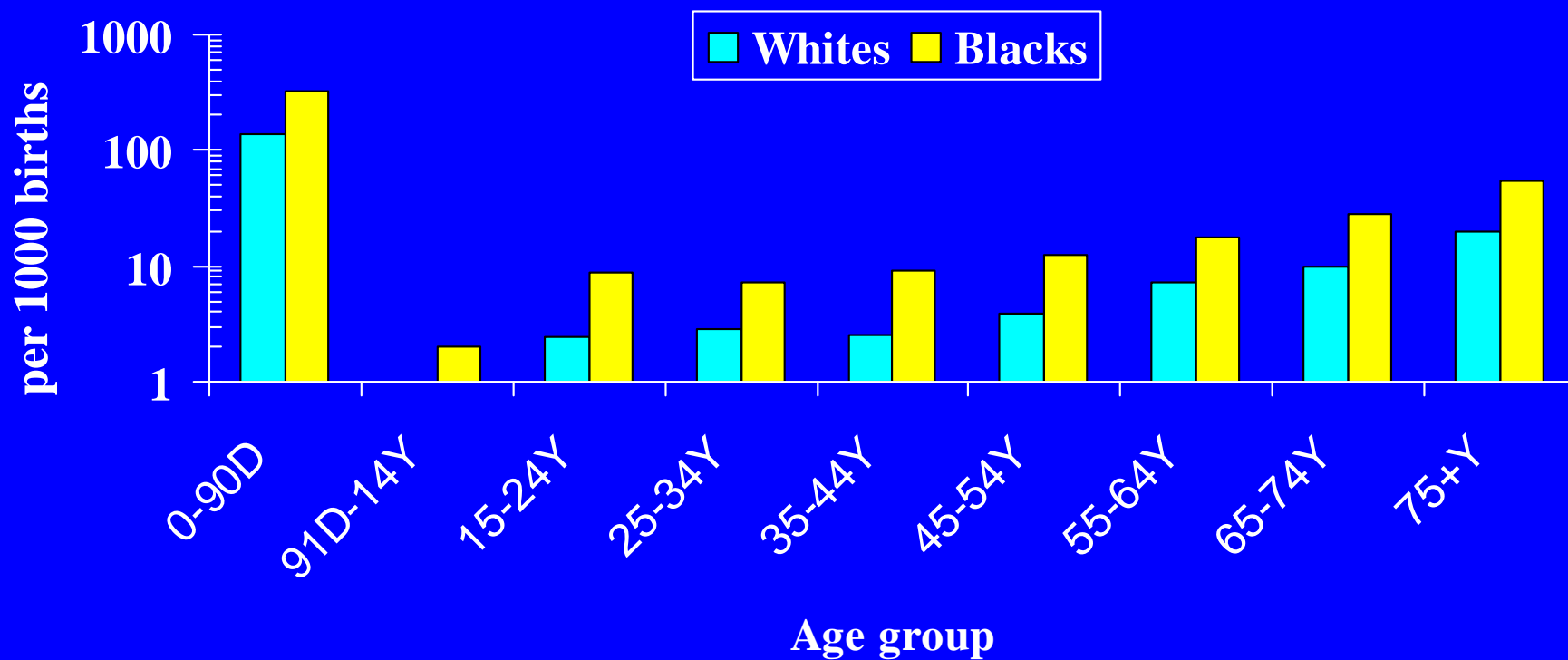
# Perinatal GBS Disease

- Group B streptococcus (GBS) emerged as an important pathogen in the 1970s
- GBS infection presents as sepsis, pneumonia and meningitis in newborns
- GBS causes a significant burden
  - neonatal illness/death, long-term disability
- Neonatal direct costs -- \$300 million/yr

# Perinatal GBS Disease

- Early-onset GBS disease
  - Occurs by vertical transmission
  - Infants <7 days old
- Risk factors
  - Obstetrical factors: Preterm, prolonged rupture of membranes, fever
  - Demographics: African American, young maternal age

# Invasive GBS Disease Incidence by Age Group and Race (1990)



# GBS Disease in Black Infants

- Higher rates of GBS disease in black infants
  - Contributing factors\*:
    - Higher maternal GBS colonization
    - Higher rates of preterm deliveries
    - Less access to prenatal care
- Black race an independent risk factor for EOD\*

\*Schuchat A, Oxtoby M, et al. JID, 1990

# **Prevention of Perinatal GBS Disease in the 1980's**

- Advances in neonatal care led to lower fatality rates
- Intrapartum antibiotics (IAP) reduce vertical transmission of GBS from colonized women
- IAP not widely adopted

# **Prevention of Perinatal GBS Disease in the 1990's**

- Public advocacy groups formed
  - Efforts led to local and national media attention
- State legislatures considered prevention bills
- Medical professional associations publish prevention statements
- California assembly mandated the health department hold a consensus conference

# **National Consensus Conference**

## **March 1995**

Standardize GBS prevention guidelines

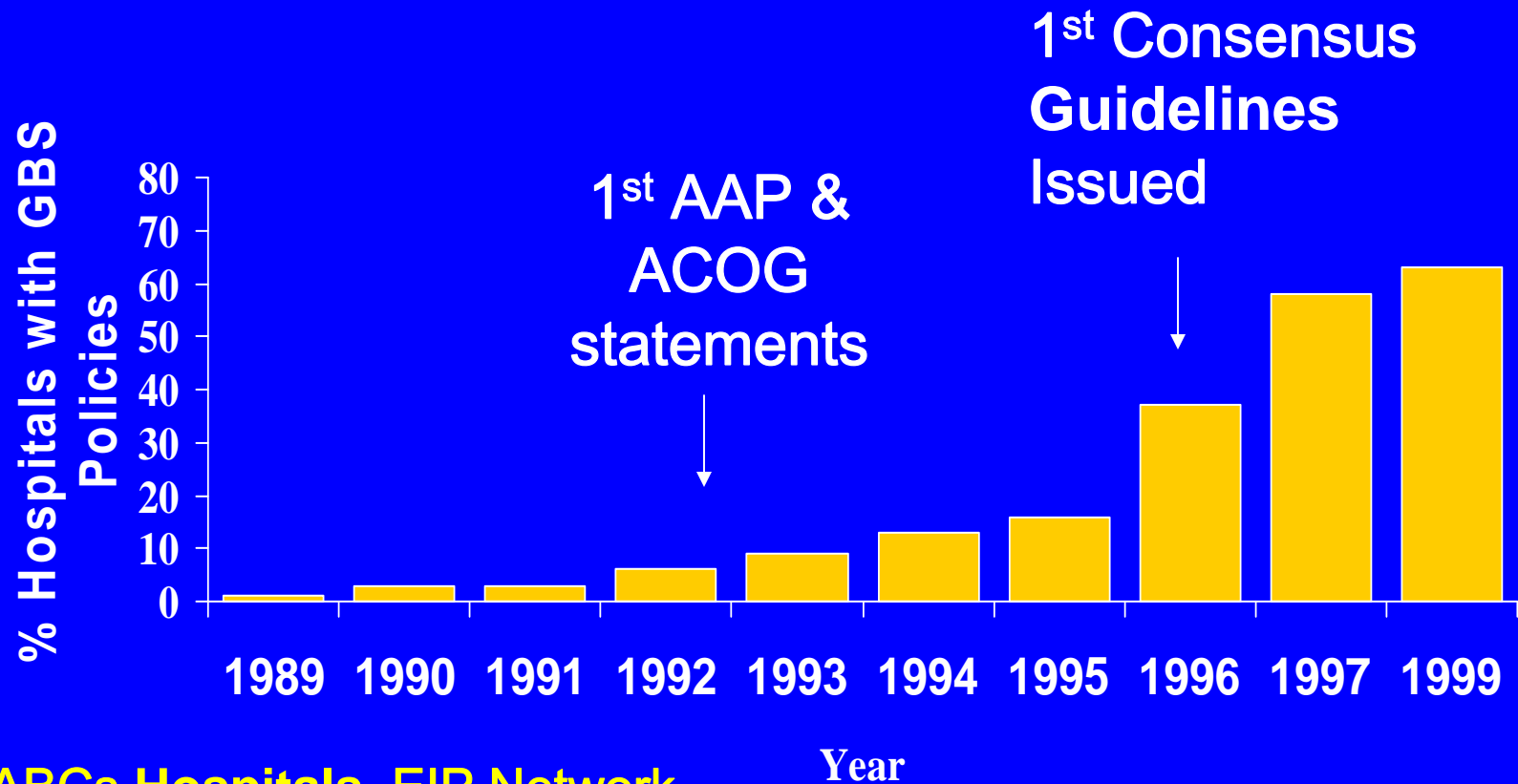
- Objectives:
  - Produce a useful document
  - Base guidelines on the best scientific data available
  - Make every effort to obtain support/acceptance of professions involved in prevention



# 1996 Consensus Guidelines

- Issued by CDC, ACOG and AAP
- Recommend providers and institutions choose between two prevention strategies
  - Based on obstetrical risk factors or
  - Prenatal screening culture for GBS carriage
- Recommendations not race specific

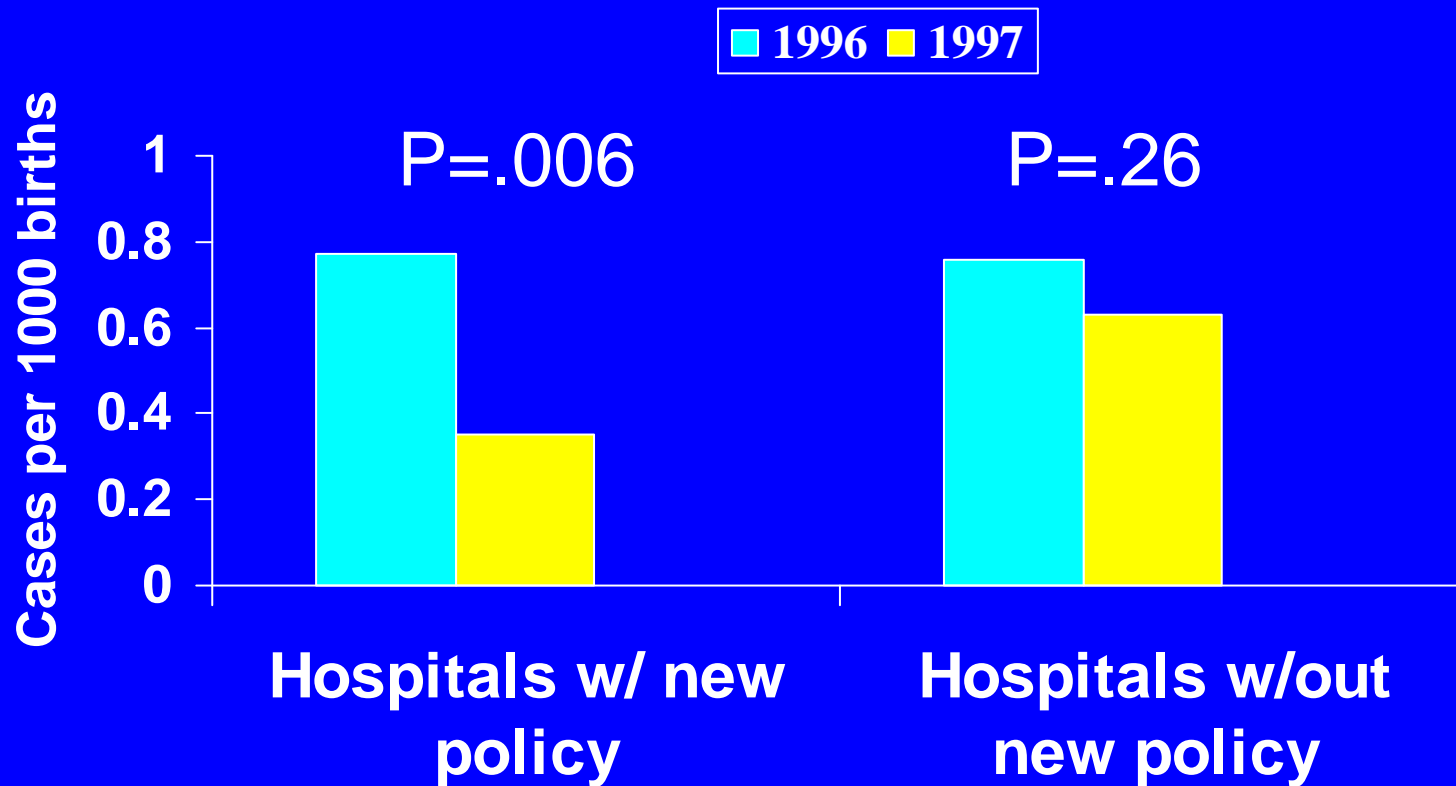
# Hospitals Adopted GBS Policies After 1996 Consensus Guidelines



ABCs Hospitals, EIP Network  
MMWR 1998; 47:665-670



# Change in Incidence of Early-Onset GBS Disease in Hospitals with and without New Policies

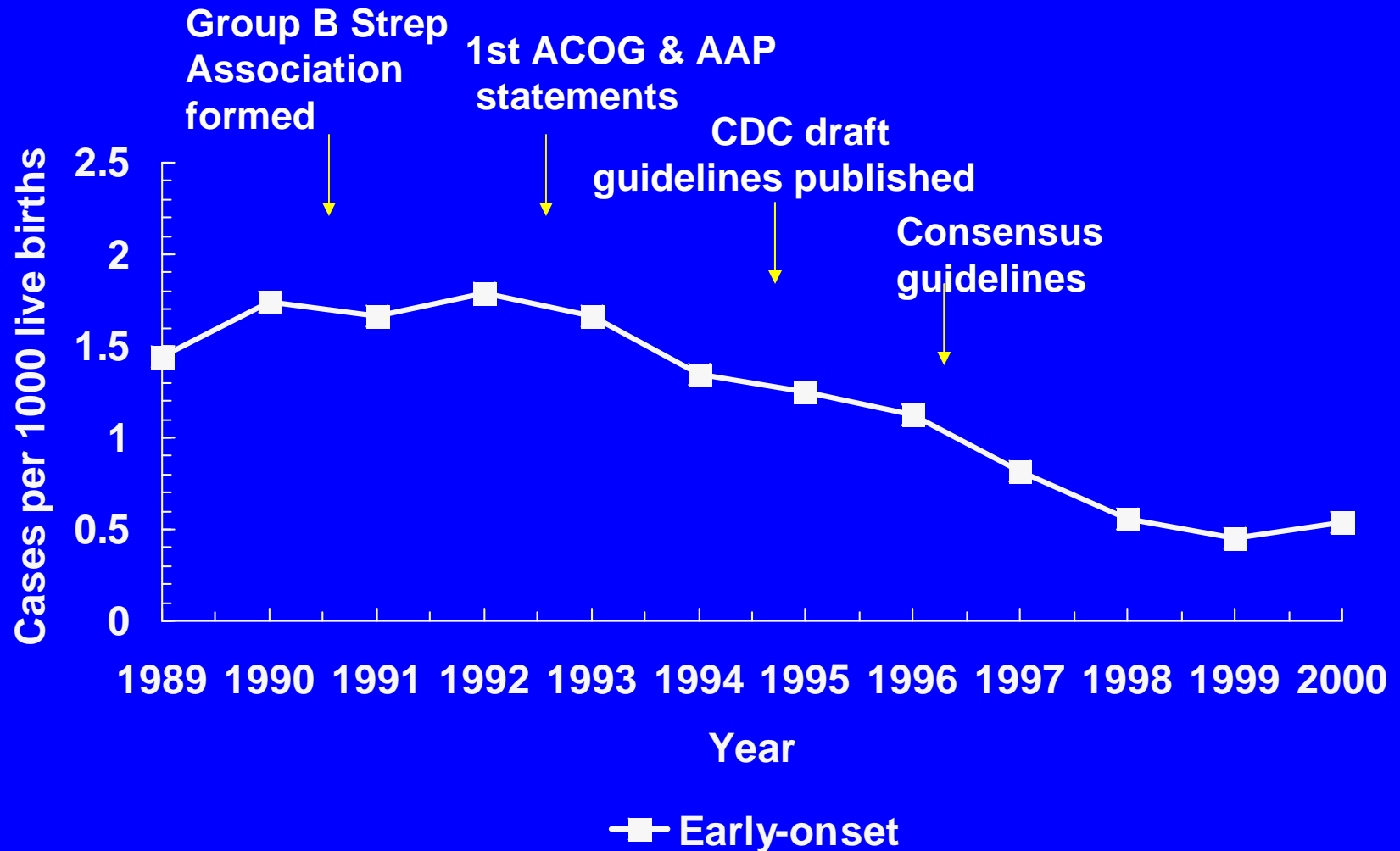


Factor, Obstet Gynecol 2000;95:377-82



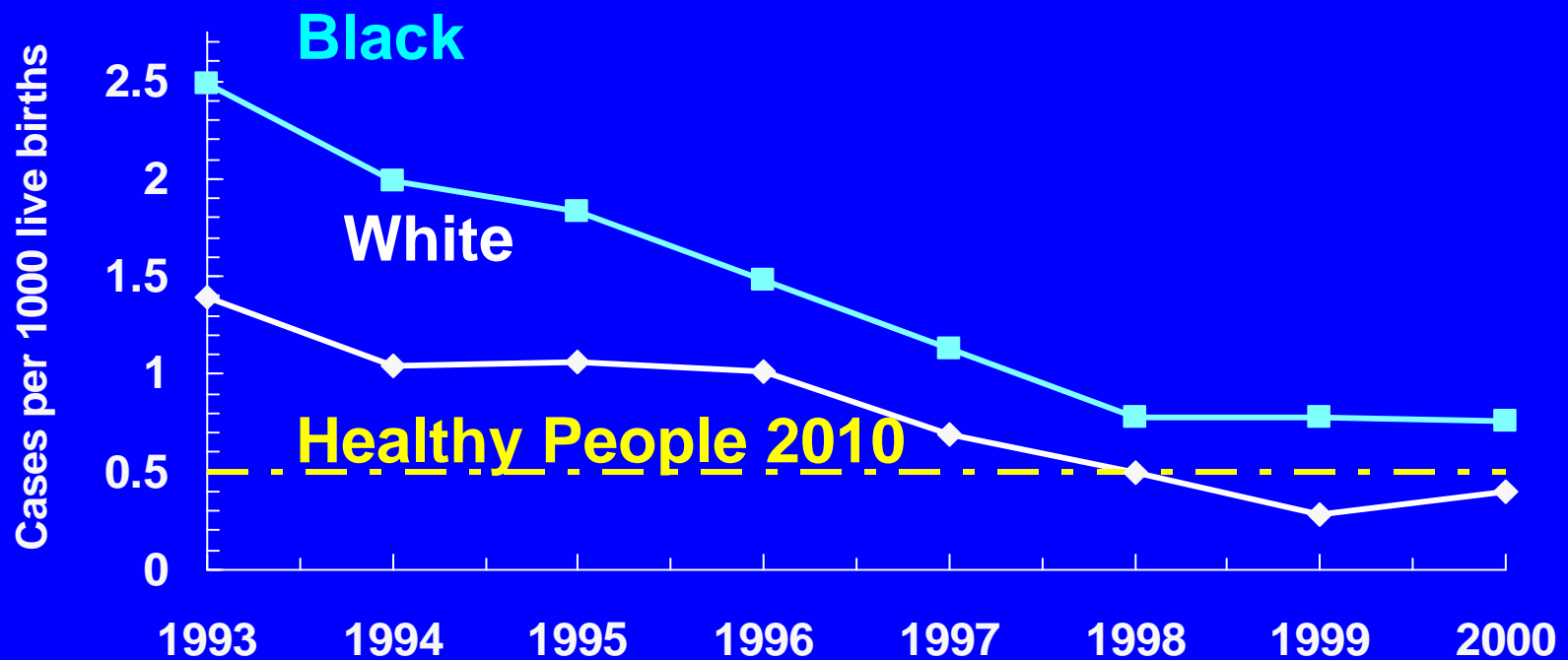
# Rates of Early-Onset GBS Disease

## Decrease by 70% since 1993



Schrag, New Engl J Med 2000 342: 15-20

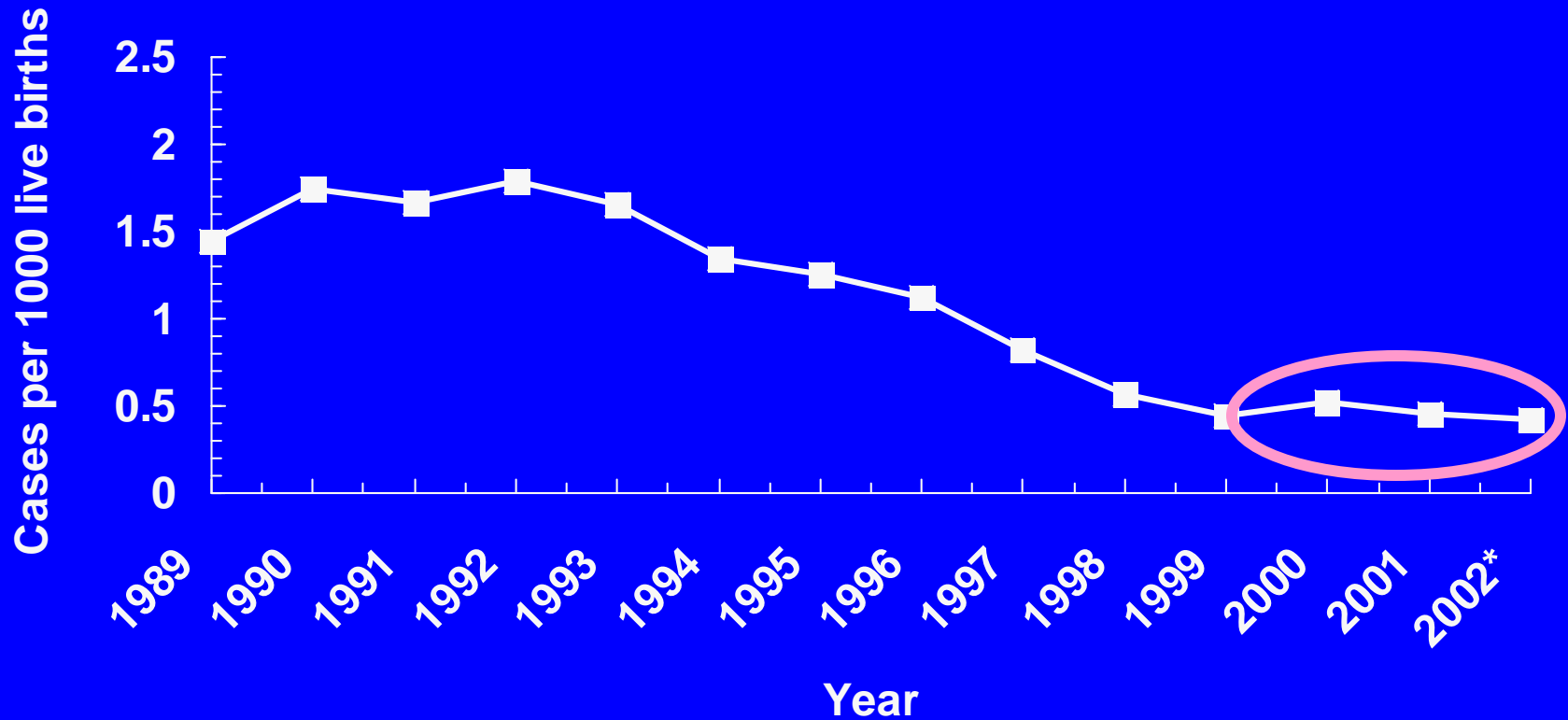
# Decline by 75% in Disparity in Incidence Between Black and White Infants



Schrag, New Engl J Med 2000 342: 15-20



# Early-Onset GBS Disease Reached a Plateau in U.S.



Schrag, New Engl J Med 2000

# Evaluation of 1996 guidelines

## November 2001

- GBS partners from key organizations participate
  - AAP, ACOG, ACNM, AAFP, CDC
- Consider evidence comparing prevention strategies
- Led to key change in guidelines
  - Single strategy for identifying candidates for IAP





# MMWR<sup>TM</sup>

**Morbidity and Mortality Weekly Report**

Recommendations and Reports

August 16, 2002 / Vol. 51 / No. RR-11

## **Prevention of Perinatal Group B Streptococcal Disease**

**Revised Guidelines from CDC**



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## **Revised Guidelines**

**Universal prenatal  
screening at 35-37 wks'  
gestation**





# Translating Recommendations into Practice



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## Preventing Group B Strep Disease

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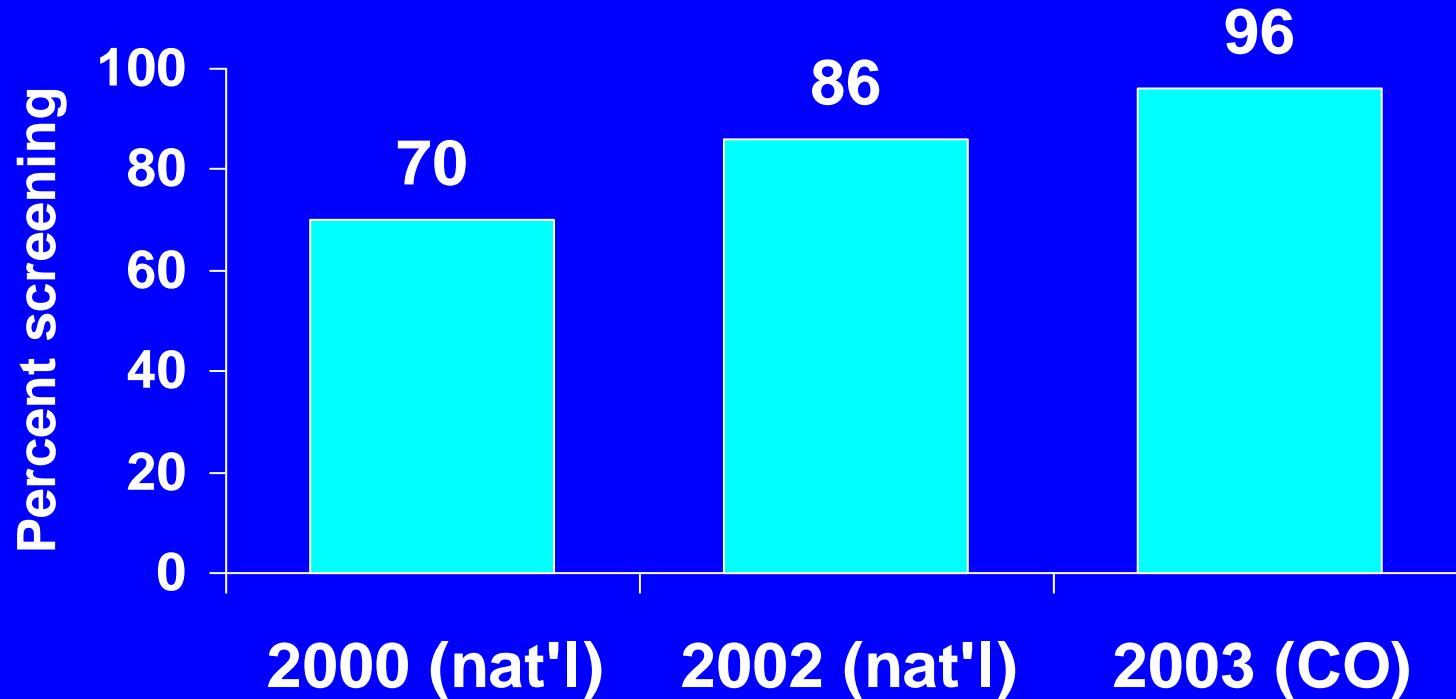
[GBS](#)

# Translating Recommendations into Practice

- Tools for health care providers
  - Slide sets of clinical and laboratory issues
  - Samples of prenatal cards
  - Specimen collection instructions
- Tools to state and local health department
  - Educational and promotional campaigns
  - Assessment and surveillance activities



# Obstetricians Increasingly Reported Using the Screening Strategy



\*Watt, Ob Gyn 2001;98:7-13 (2000 ACOG survey);  
Schulkin (2002 ACOG survey); Colorado EIP 2003





## Patient Education

- Tools to promote awareness and education
- Developed using focus groups of African American pregnant women
- Dissemination of materials through existing and alternative routes



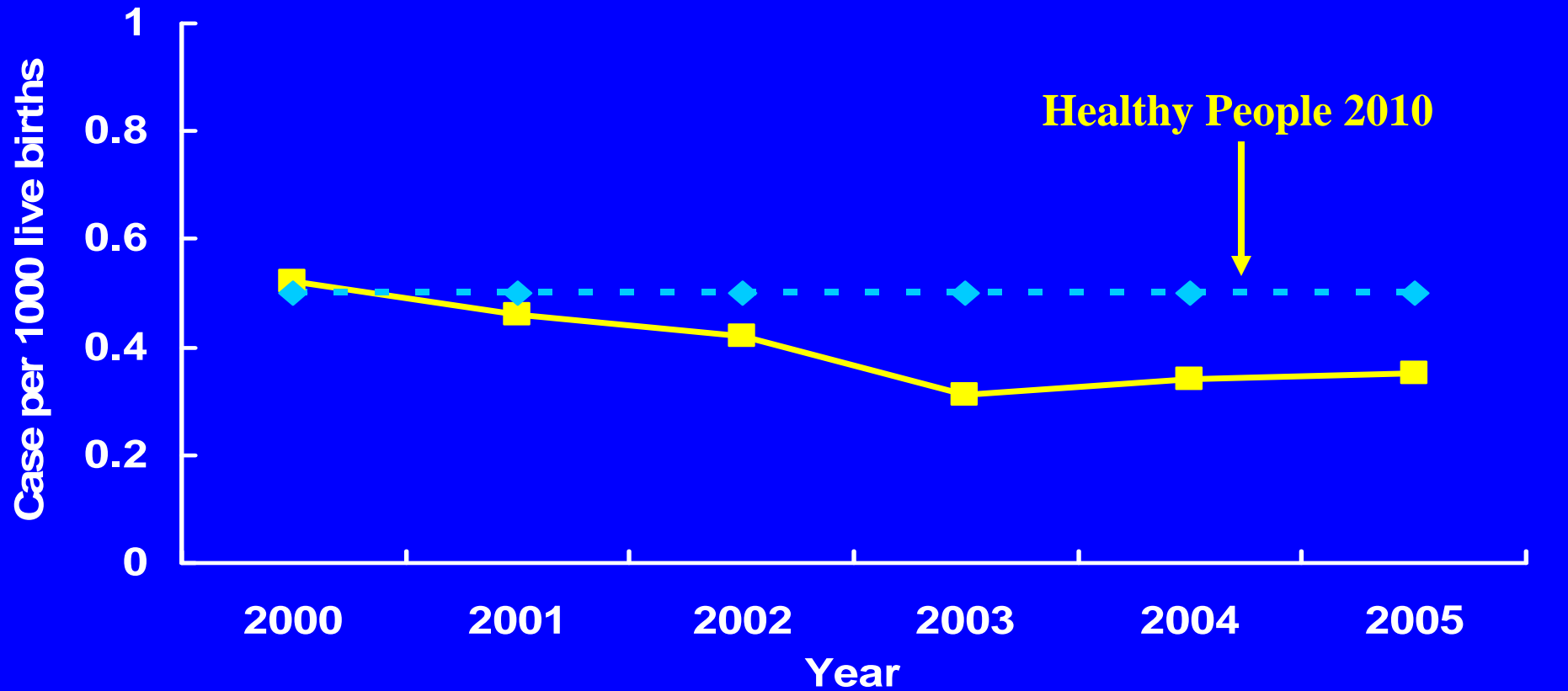
# In U.S. since 1993...

**50,000 GBS cases prevented**

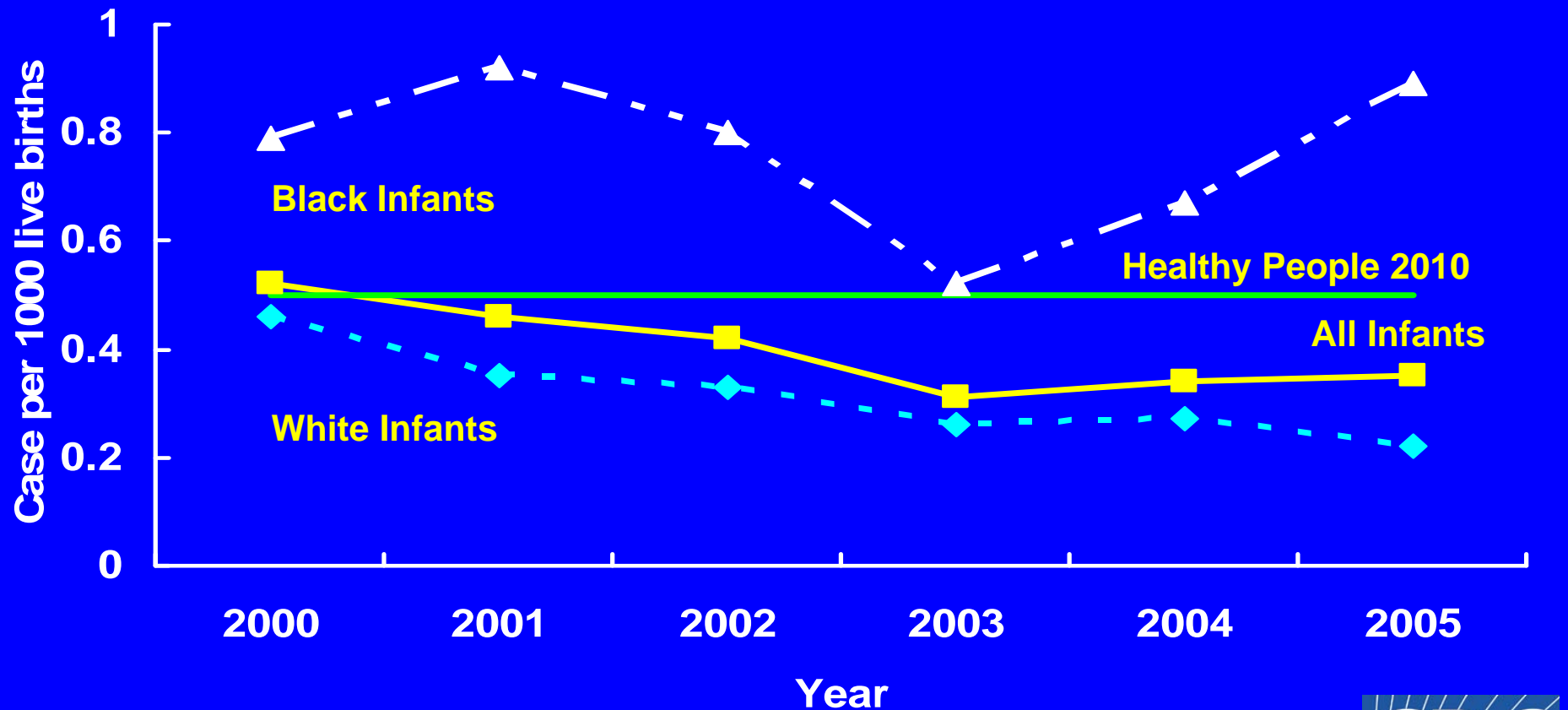
Source: National projections from ABCs data, through 2005



# Healthy People 2010 Goals achieved for Perinatal GBS Disease after 2000



# Racial Disparities Persist and Increase in 2005



# Impact of GBS Prevention Program

- Successes
  - Prevention of serious disease in newborns
  - Collaborative relationships key
  - Improvement in health disparities but not elimination
- Limitations
  - Is one approach enough to eliminate health disparities?





# McKinlay-Satcher Elements of Perinatal GBS Prevention

- Upstream
  - National policy
  - Standard of care endorsed by all professional groups
  - Healthy people 2010 target
- Midstream
  - State surveillance
  - Hospital policies such as standing orders
  - Resources to hospitals, labs and providers



# McKinlay-Satcher Elements of Perinatal GBS Prevention

- Downstream
  - Provider compliance with guidelines
  - Promoting GBS awareness and education
  - Efforts to reach high risk women



**Thank You!**

